

ABSTRACT

Ornamental plants are plants that are considered beautiful and can give an aesthetic impression to others who are looking at them. Ornamental plants are very suitable to be placed indoors so that they give a comfortable and fresh impression to the room. Because it is placed in a room, plant care is easier to do. All types of plants will carry out photosynthesis for plant survival. Light is one of the main components in the process of photosynthesis. Therefore, plants need constant lighting at all times so that the photosynthesis process can run well. During the day the plant will get enough light. However, at night with minimal lighting, this will inhibit the process of photosynthesis in plants. Therefore, this study was conducted to create an example of a miniature greenhouse that can control the intensity of light in the greenhouse. The controller used is a PID controller. PID controller is a control device that is very suitable for DC current devices. The tuning used in the system is Ziegler-Nichols tuning, this is because this tuning is easier to do and the resulting output is more stable. When the system is run without a controller, the system is still experiencing overshoot. After being given the controller, the system has a steady state error value of less than 10% and the system does not experience overshoot.

Keyword : *pid controler, ziegler-nichols tuning, microcontroler, steady state error*